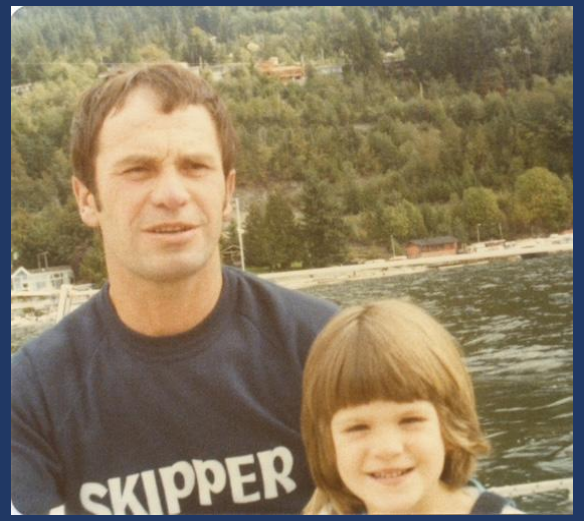
Shore Friendly Kitsap Landowner Workshop

Christina Kereki & Amy Smalley,
Kitsap County
April 15, 2026

Shore Friendly Kitsap Program Overview



Christina Kereki
Shore Friendly Kitsap Coordinator
Kitsap County

April 15, 2026
Kingston, WA

Source: Bill Lindsey

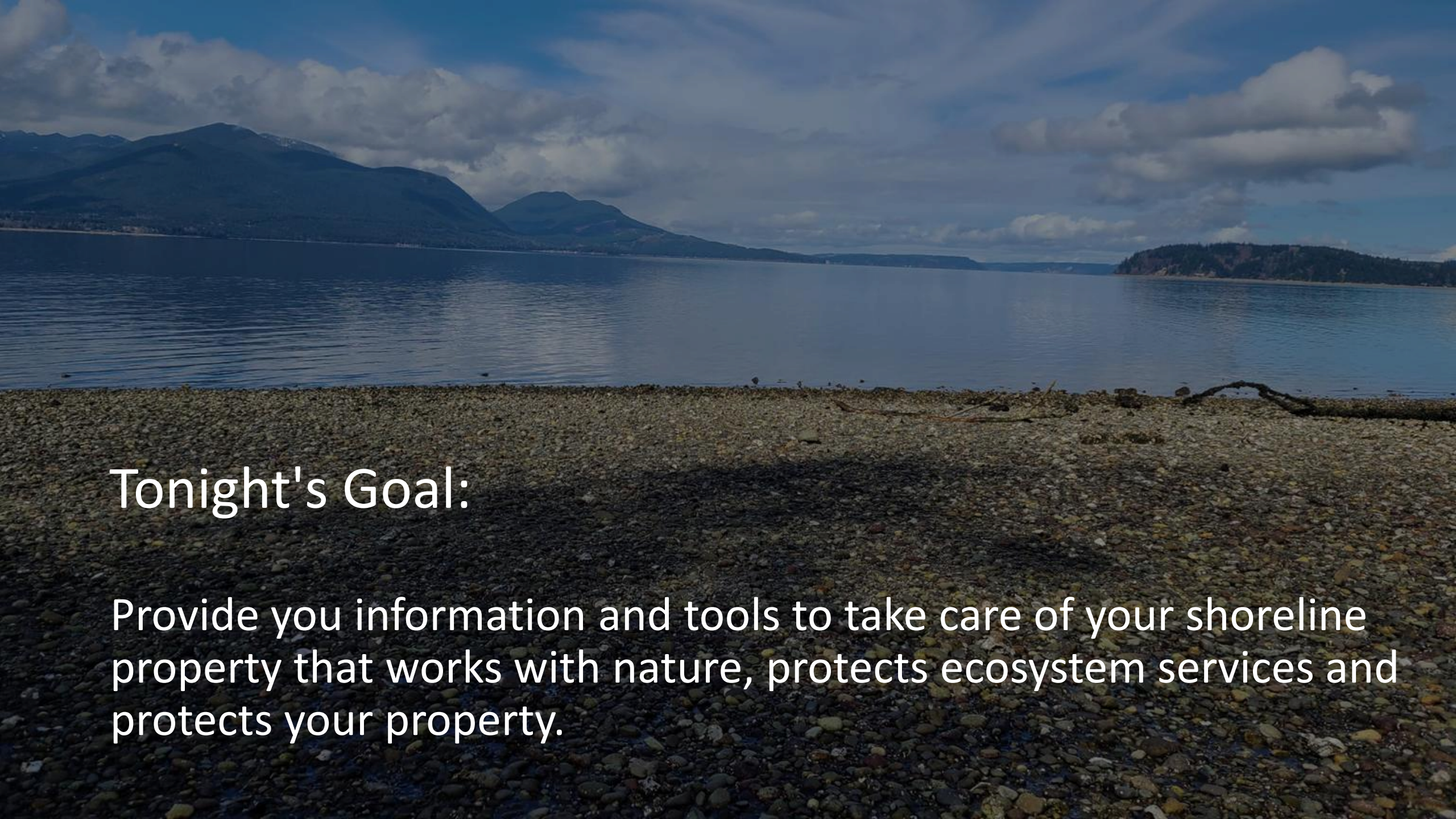
Indianola Spit,
Miller Bay
1952

Indianola Spit
2006 and 2016

2006

2016

Ecology Coastal Atlas



Tonight's Goal:

Provide you information and tools to take care of your shoreline property that works with nature, protects ecosystem services and protects your property.

What is the Shore Friendly Program?

www.shorefriendly.org

SHORE FRIENDLY KITSAP

Mid Sound Fisheries Enhancement Group

SHORE FRIENDLY KING

SHORE FRIENDLY MASON

SHORE FRIENDLY PIERCE

SHORE FRIENDLY THURSTON

Washington Department of FISH and WILDLIFE

ESTUARY & SALMON RESTORATION PROGRAM

Northwest Straits FOUNDATION
partners in marine conservation

This project has been funded wholly or in part through the Washington Department of Fish and Wildlife, Estuary and Salmon Restoration Program.

SHORE FRIENDLY KITSAP

Mission

To empower Puget Sound waterfront landowners to create beautiful, environmentally friendly shorelines for themselves and generations come

Kitsap County in Central Puget Sound

- 265 miles of marine waterfront
- 201 miles are residential

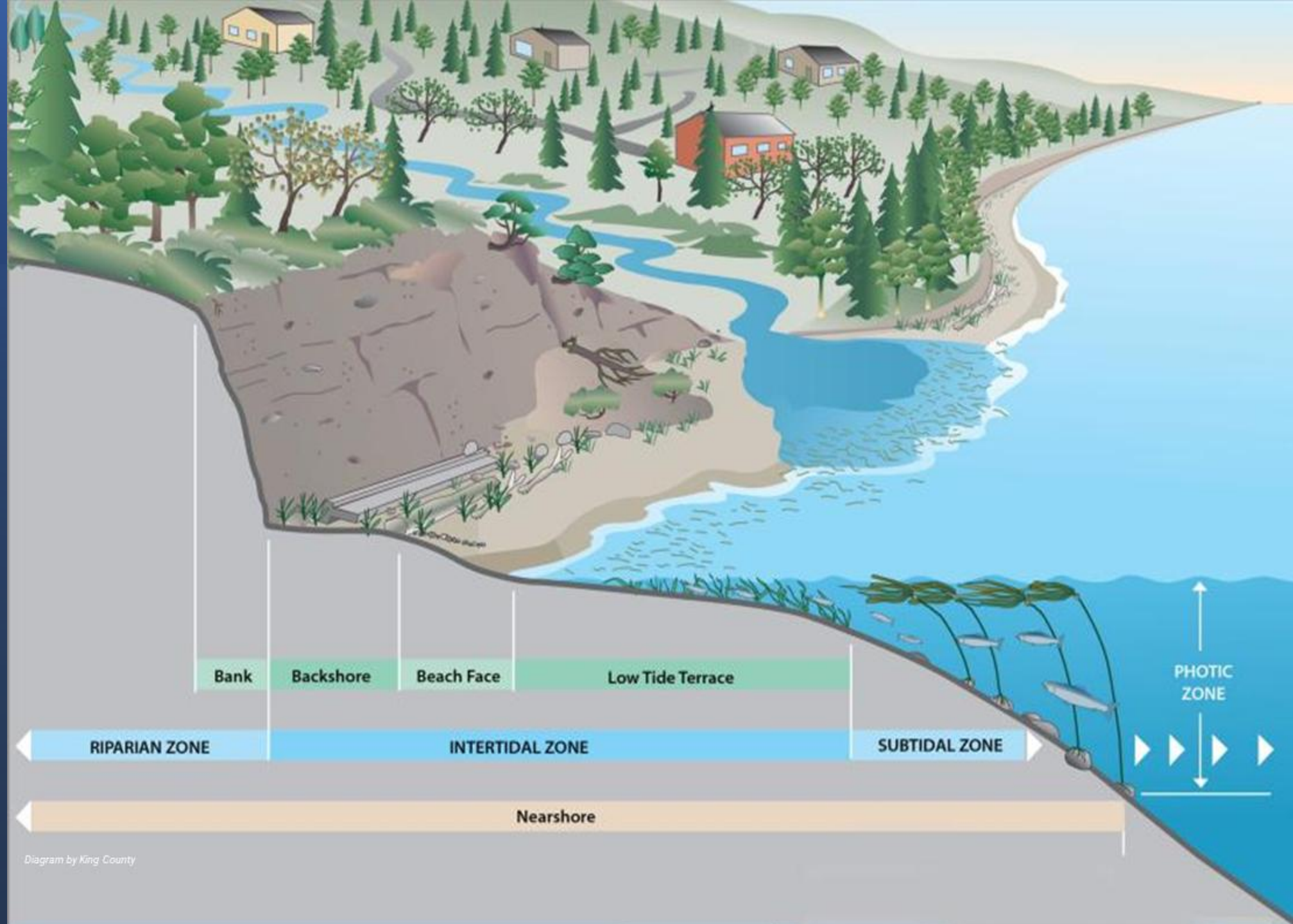
Why care about Shorelines and Beaches?

- Important because they provide ECOSYSTEM SERVICES

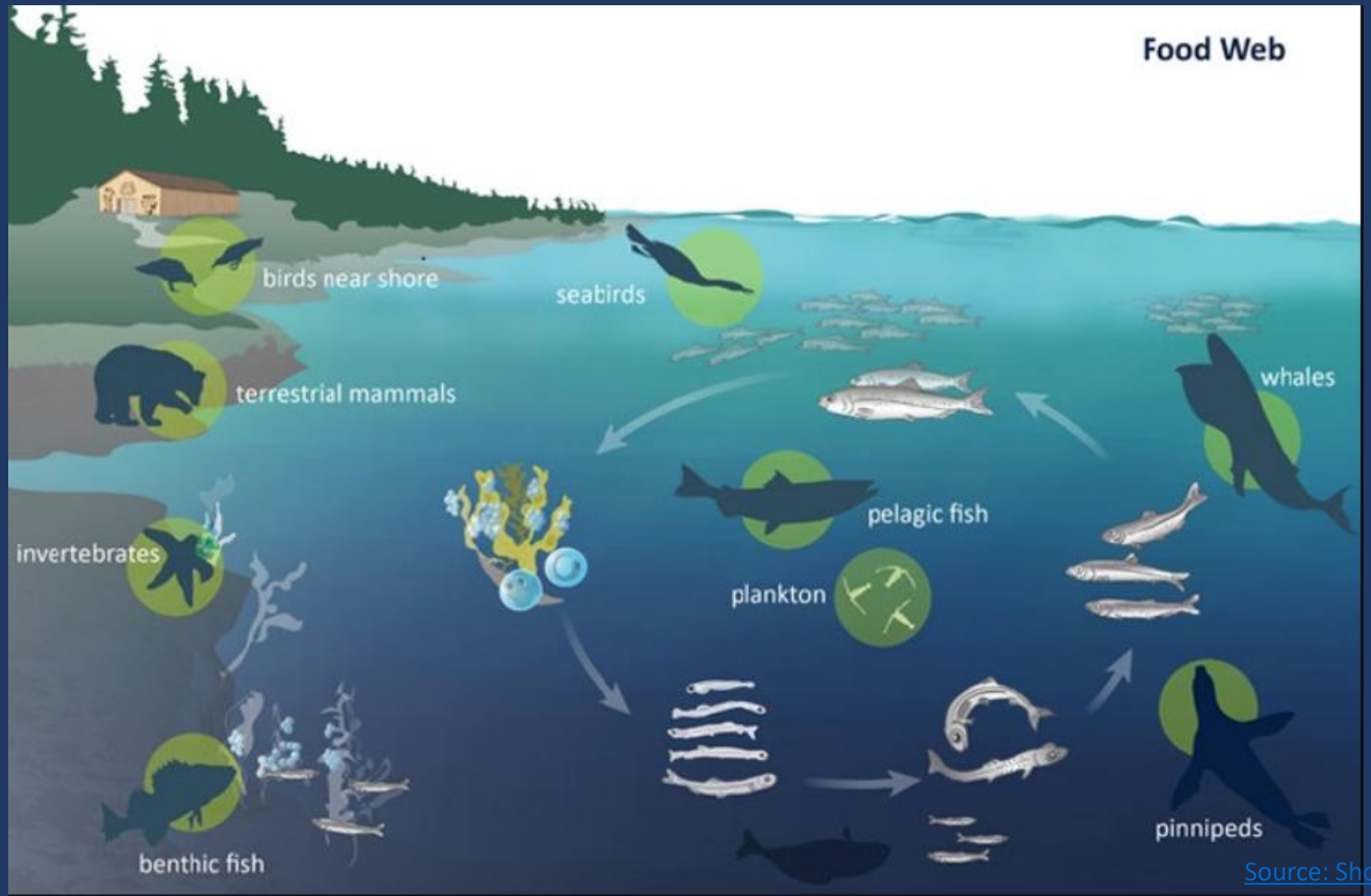
Ecosystem Services

- Benefits that people get from the ecosystem; seafood, shellfish, salmon, clean water, recreation, beaches, well being

Nearshore connects the uplands and the water



Shorelines (nearshore) as Keystone Ecosystem



Source: Shore Friendly King County

Shorelines (nearshore) as Keystone Ecosystem

- SEDIMENTS - important to build our beaches
- FORAGE FISH - surf smelt, Pacific sand lance, herring
- RIPARIAN VEGETATION – native vegetation along marine shores

Sediments

- Sands and gravels from bluffs are key for building up beaches

Forage Fish

BEACH SPAWNERS

Surf smelt

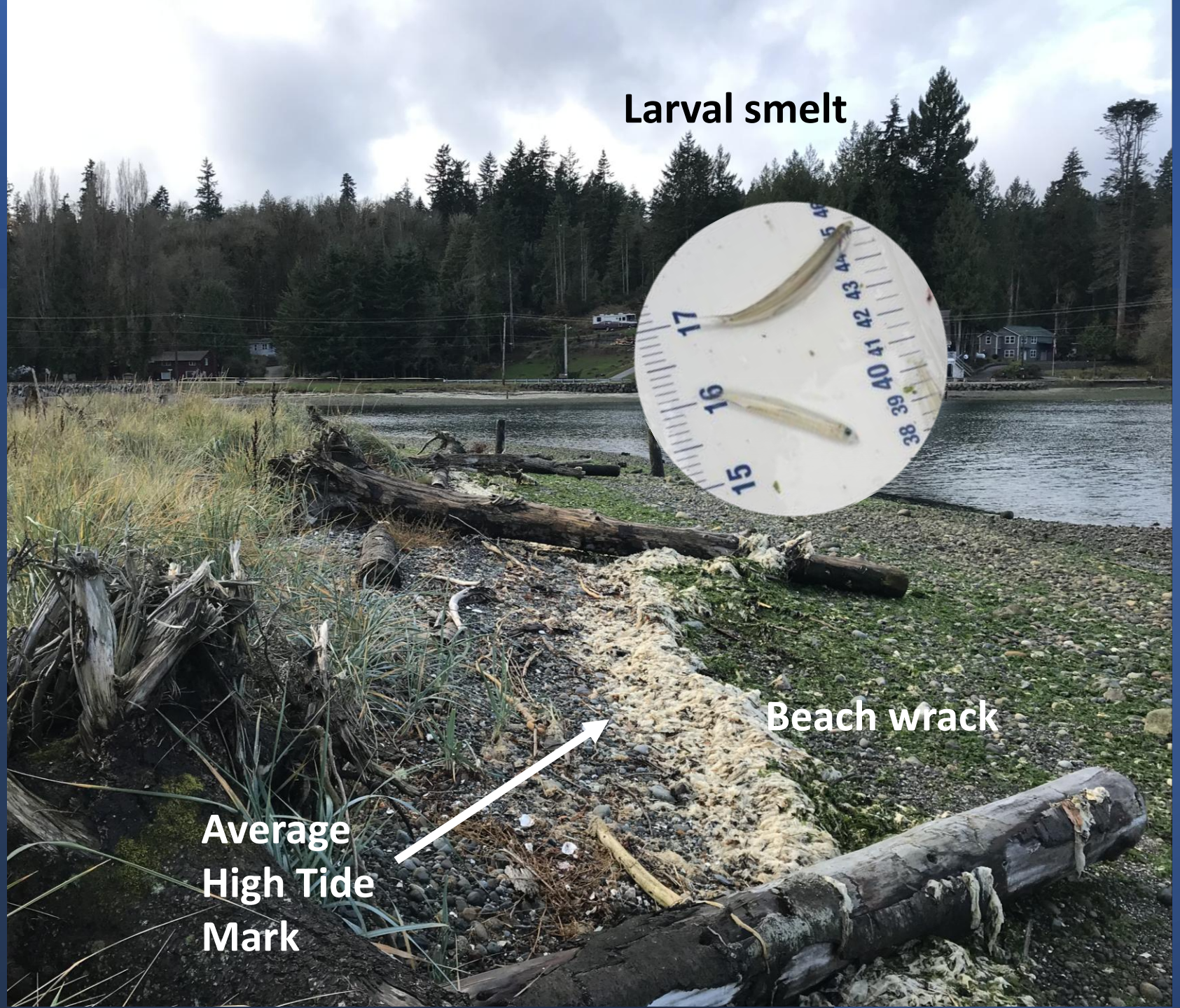
Larval smelt

PELAGIC SPAWNERS
(eelgrass & kelp)

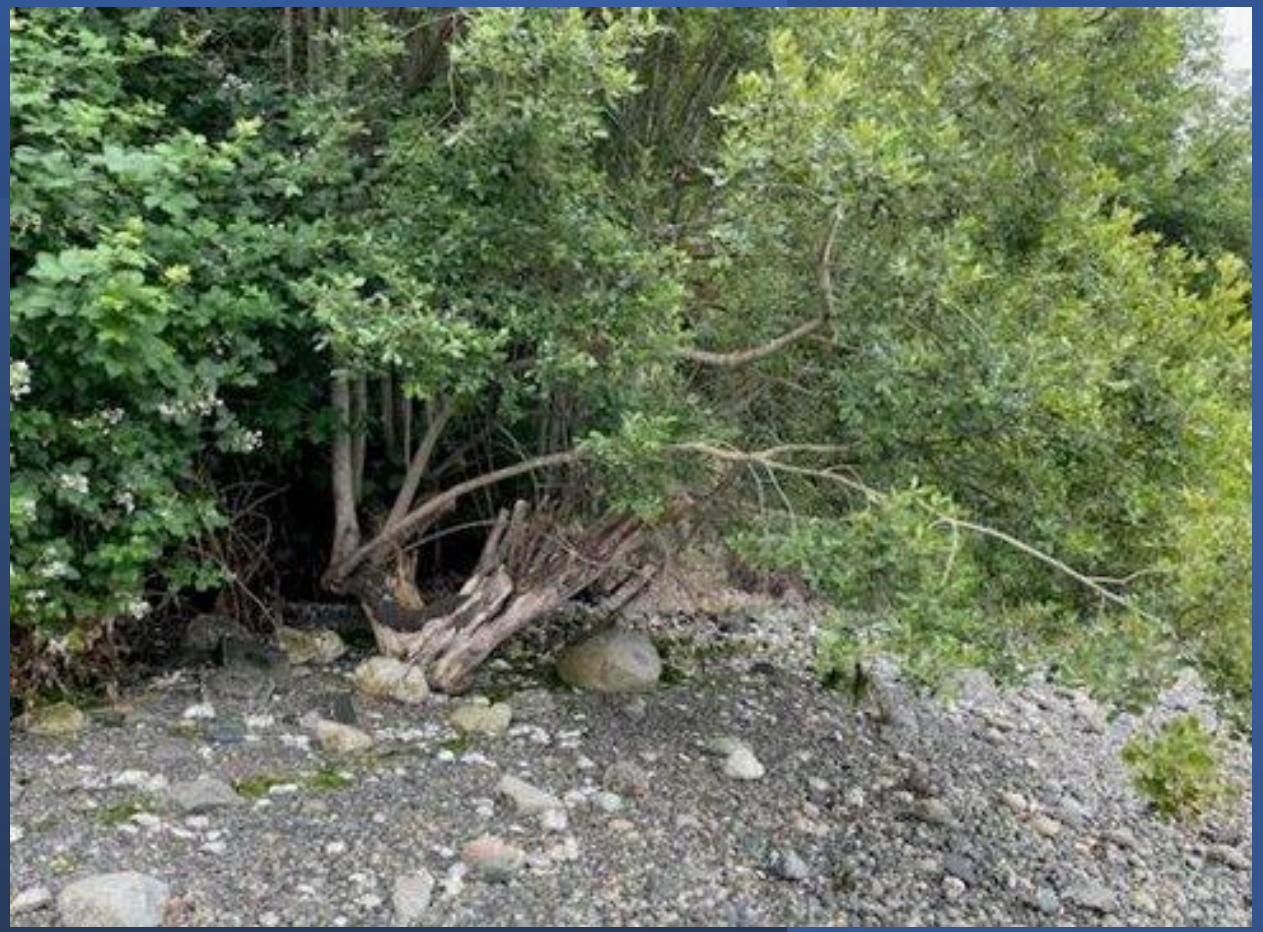
Herring

Pacific sand lance

Forage Fish Spawning

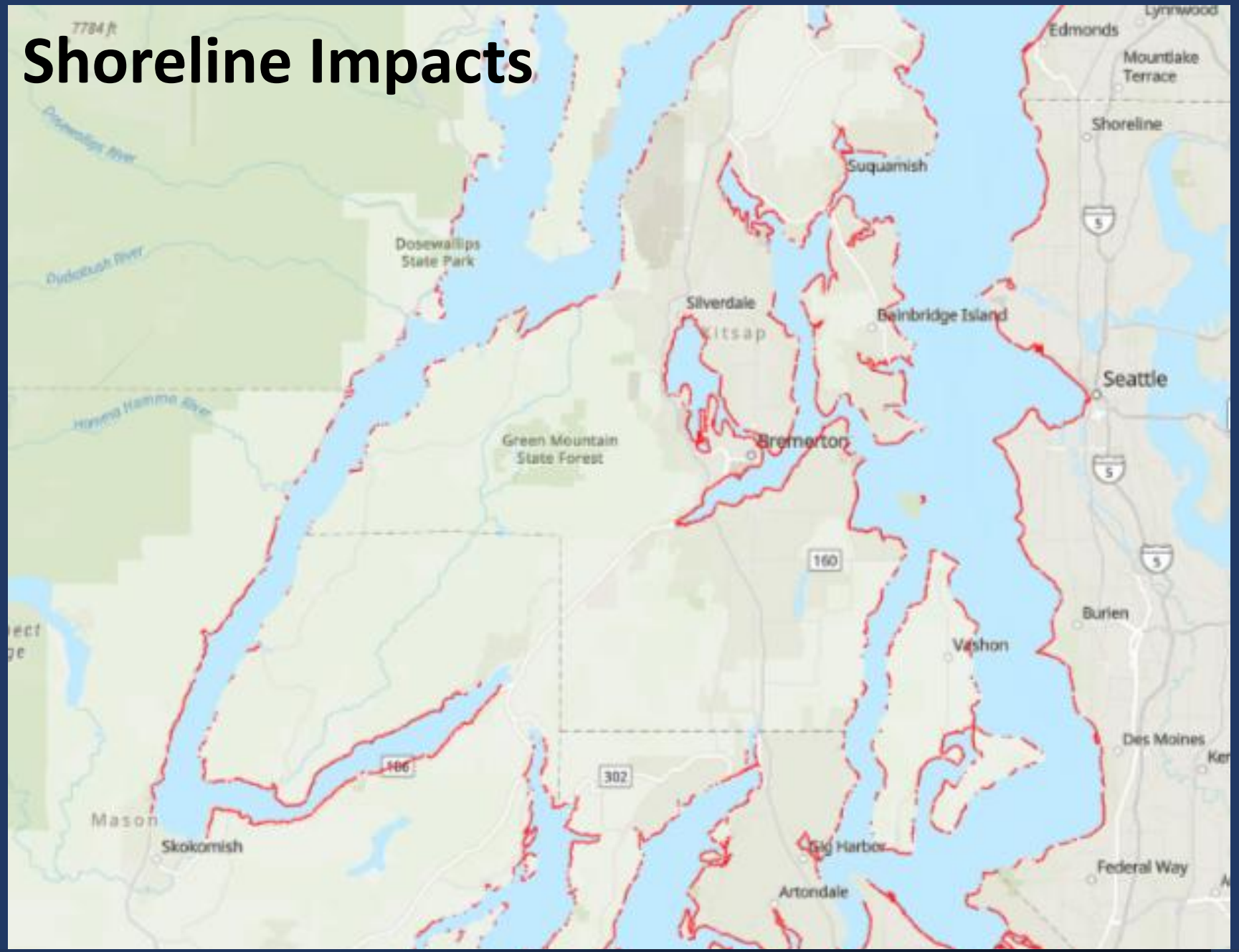


Riparian Vegetation



Healthy Puget Sound Beaches are messy

Shoreline Impacts



Shoreline Armoring

Armored shoreline

Coastal Atlas Map
https://apps.ecology.wa.gov/coastalatlasmap

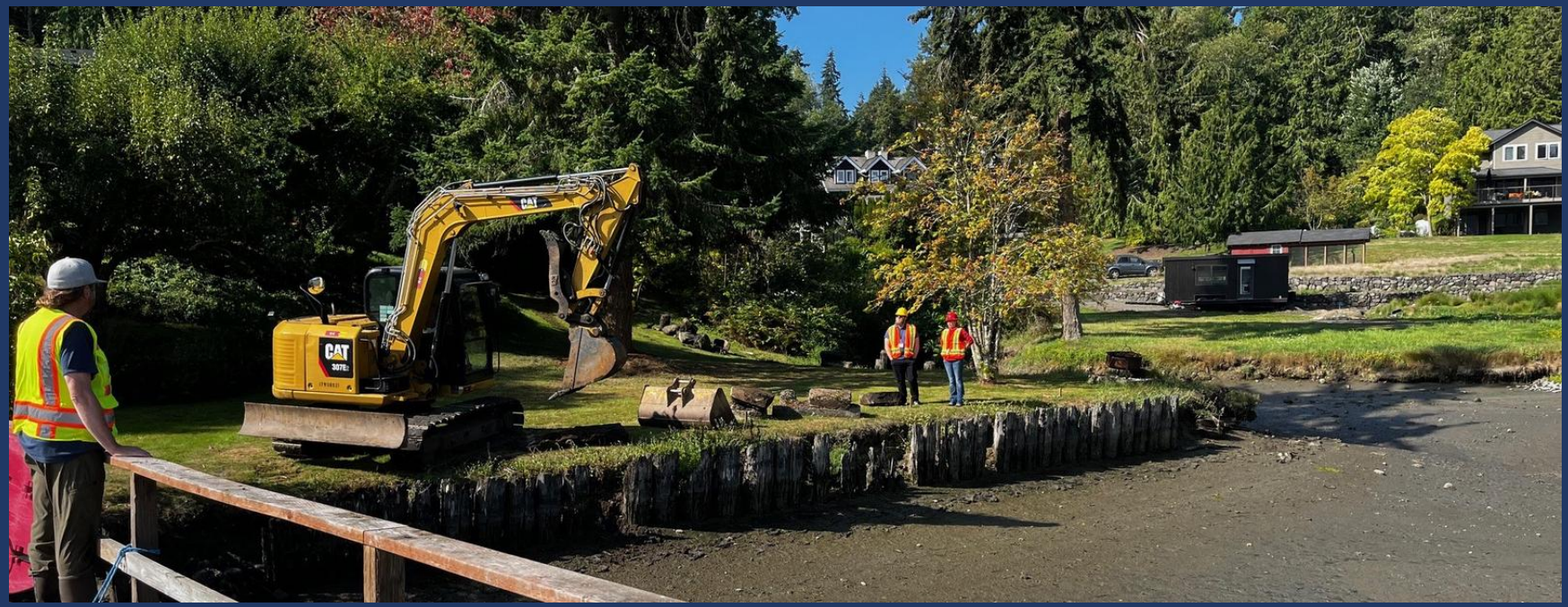
Shoreline Armor (Bulkheads) Impacts

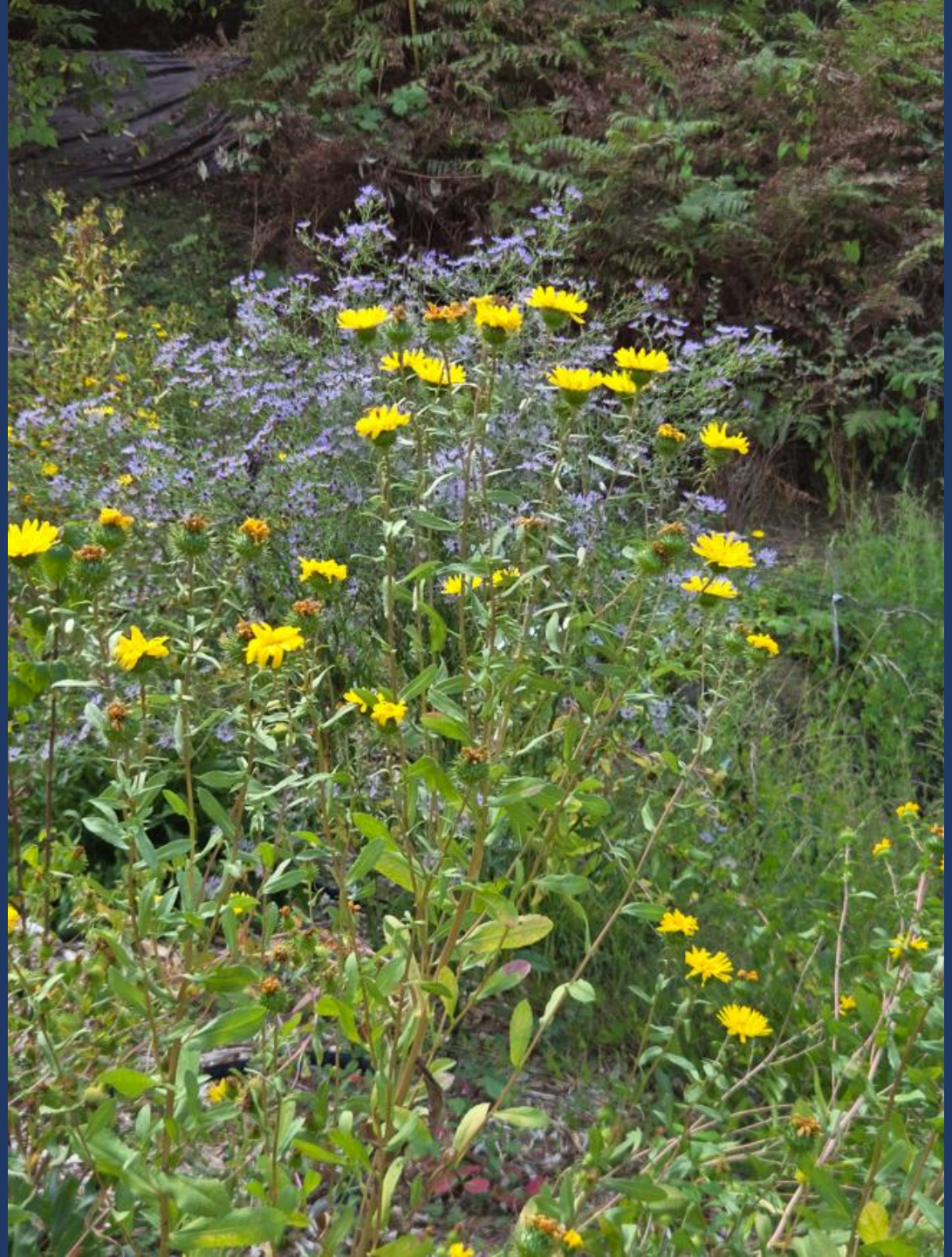
On top of spawning beaches

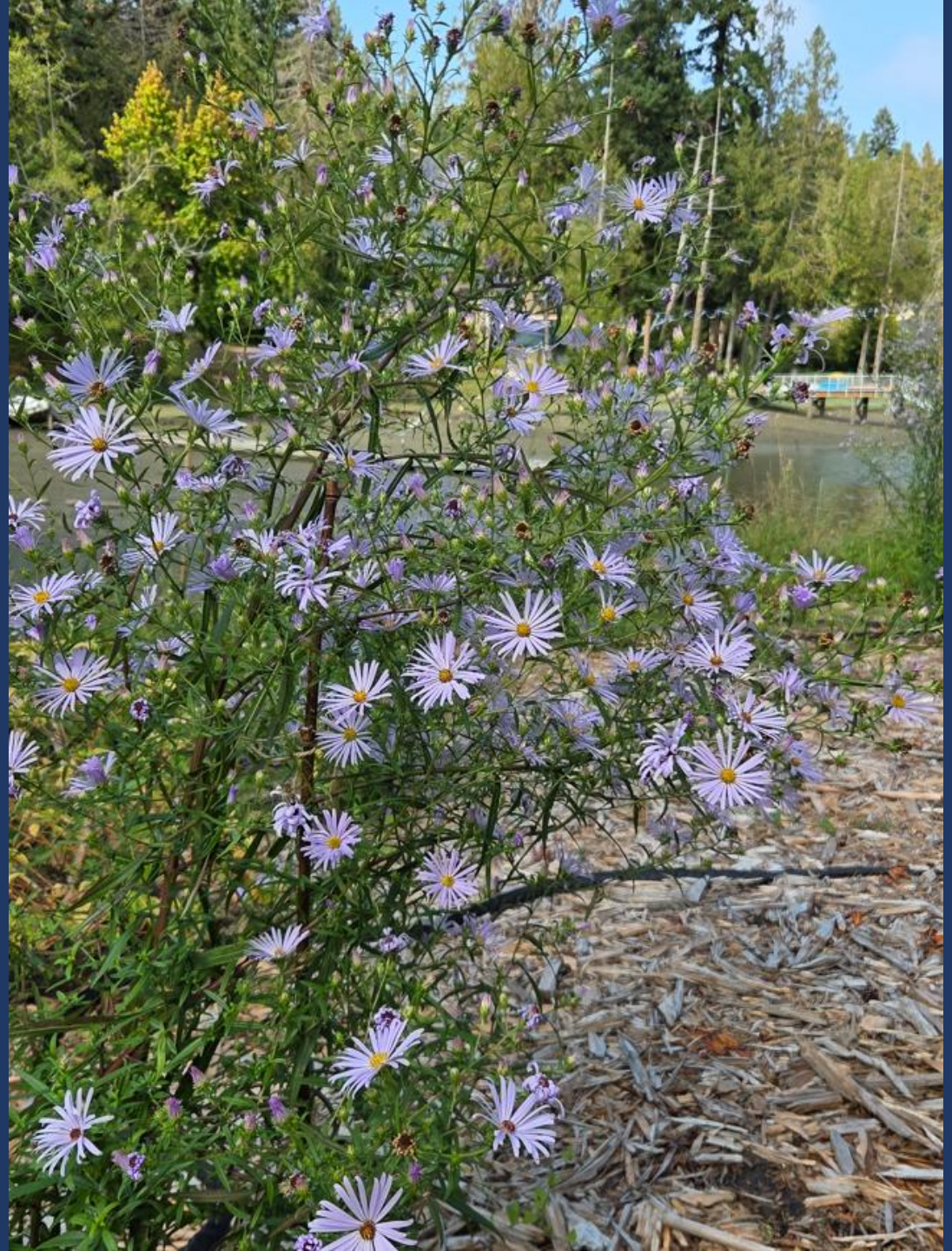
Interrupts sediment flow

Toxic materials: Creosote

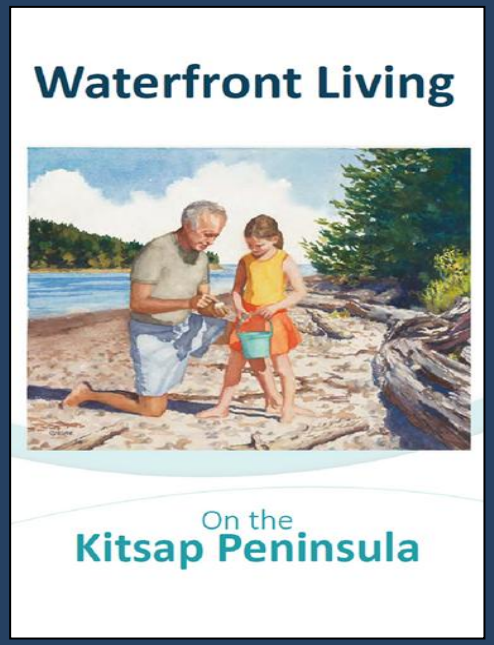
SHORE FRIENDLY KITSAP



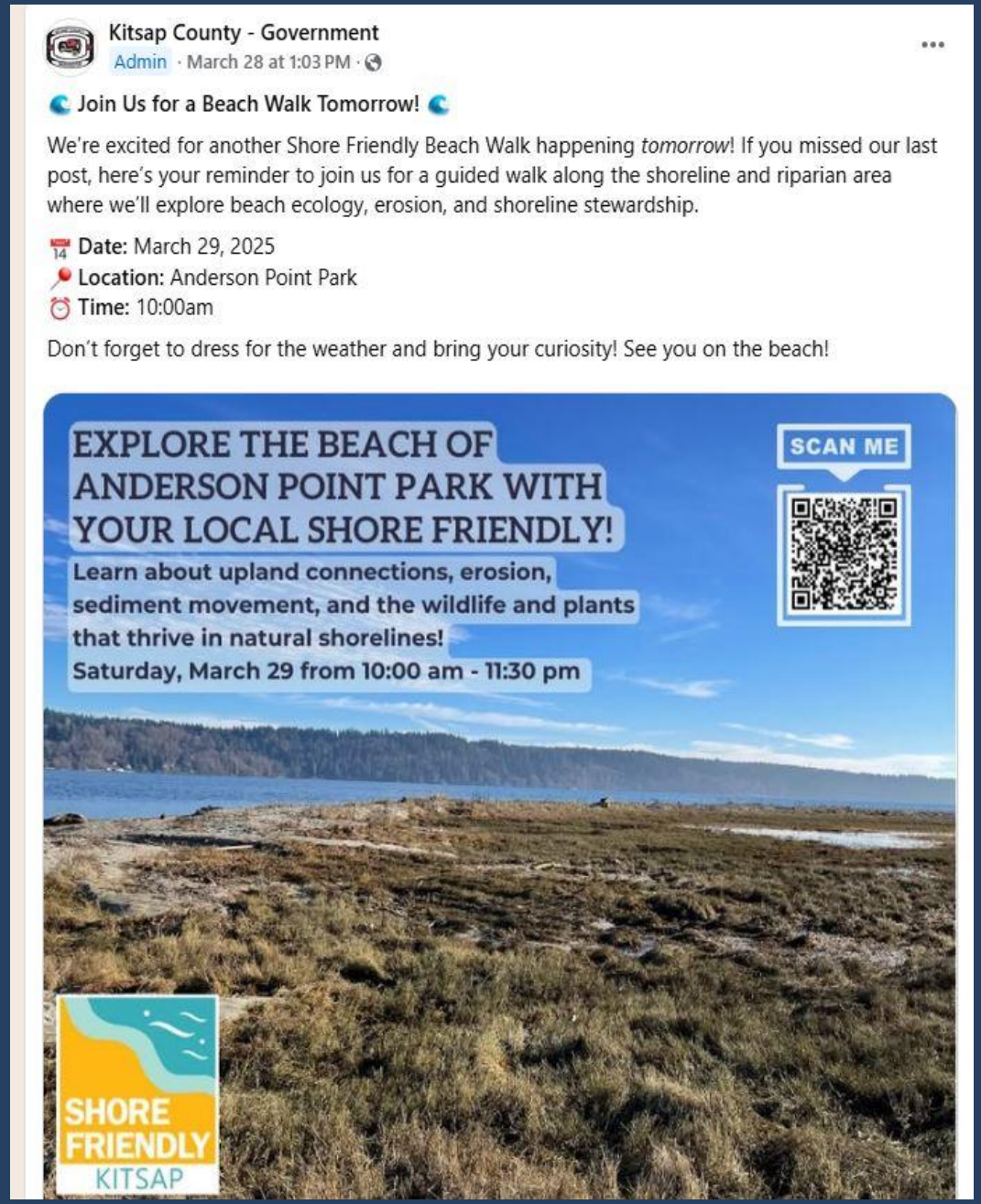


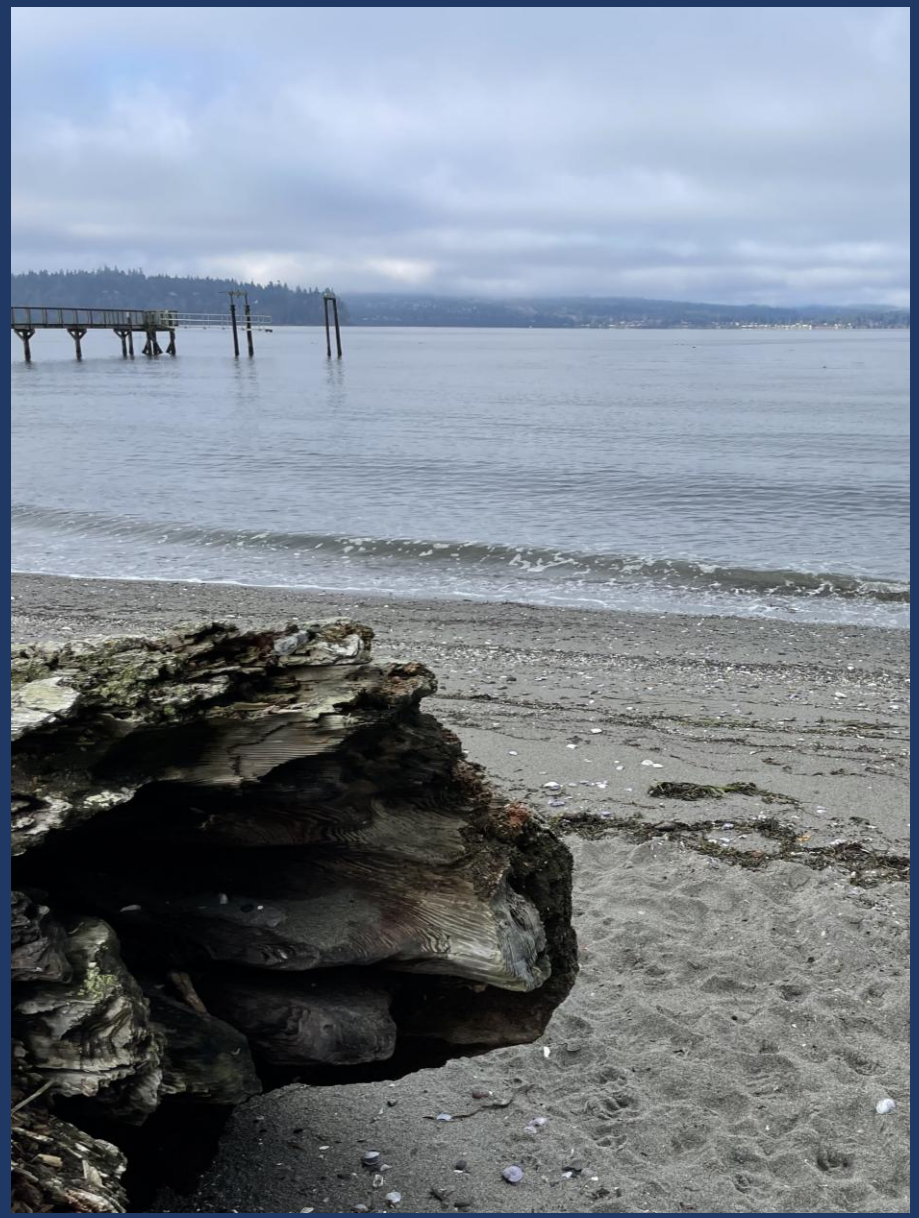


Outreach and Incentives



- Events
- Facebook Group
- Newsletter
- Mailings

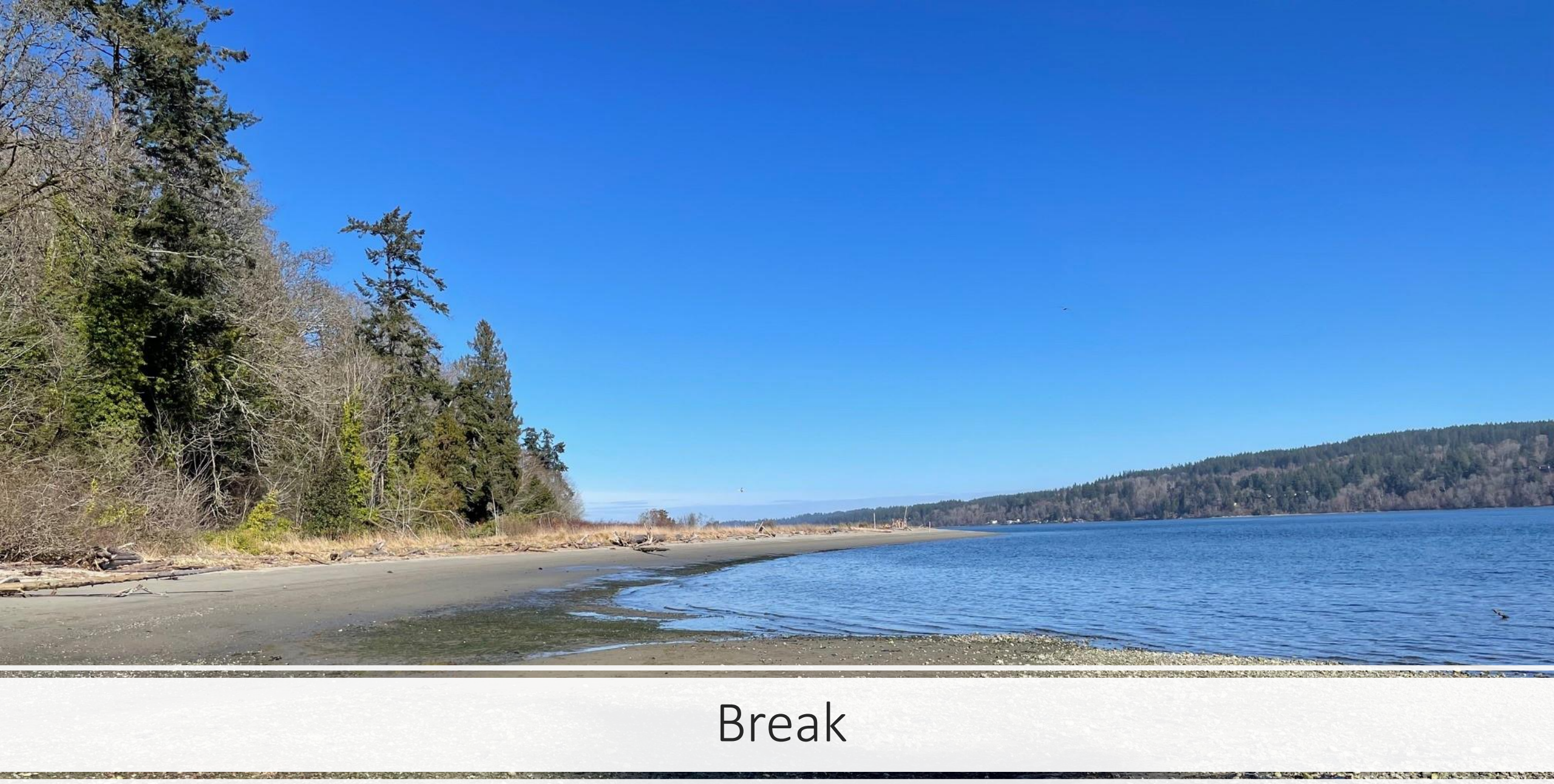





Water Levels – Natural Beach

CARING FOR YOUR MARINE SHORELINE:

A landowner workshop



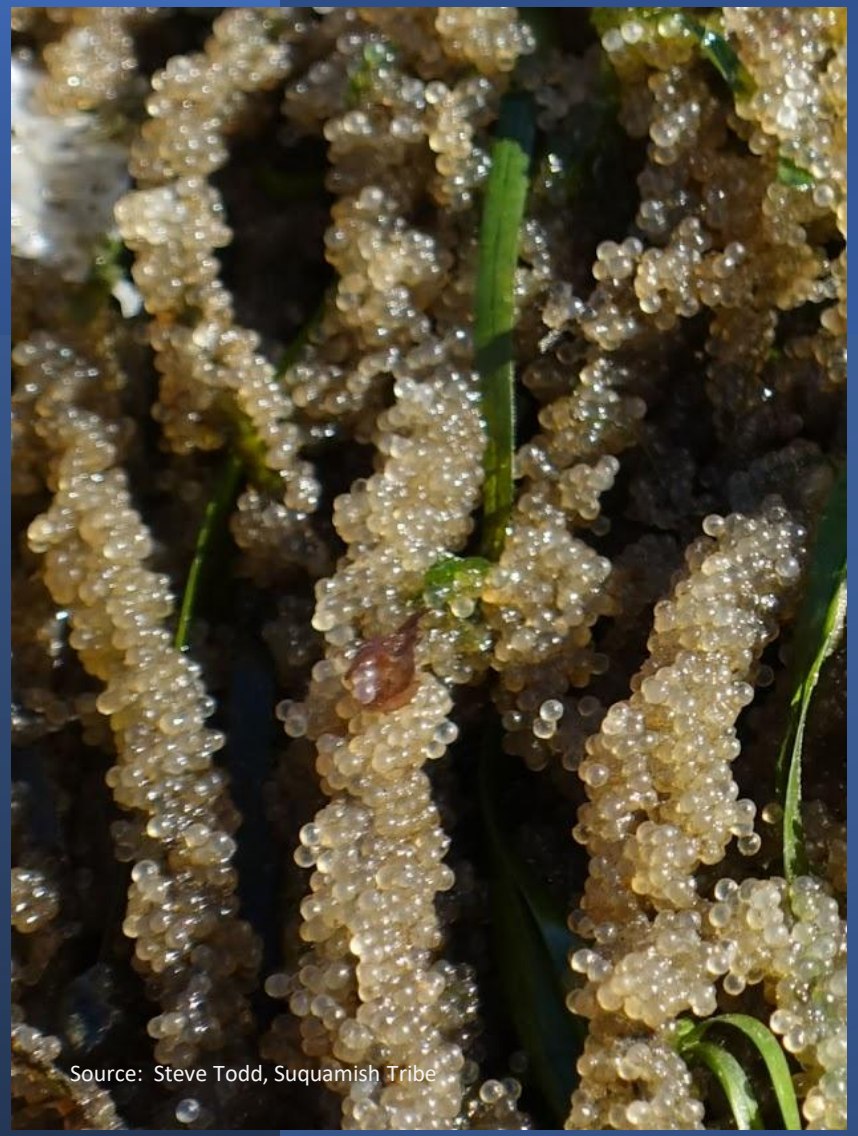
Break

End

Importance of Shoreline Vegetation in the Marine Food Web

Eelgrass and Herring

Source: Steve Todd, Suquamish Tribe



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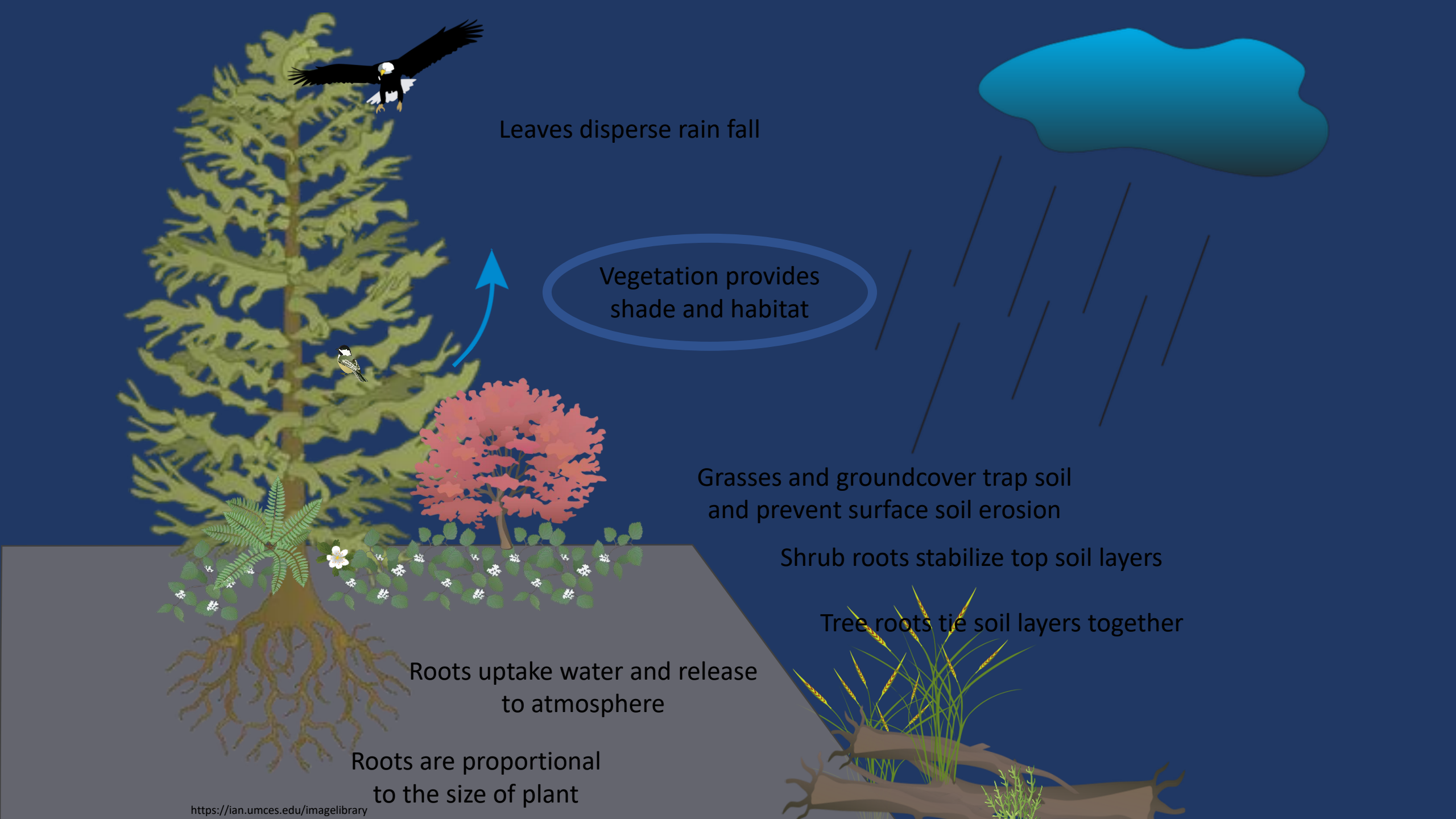


https://ian.umces.edu/imagelibrary

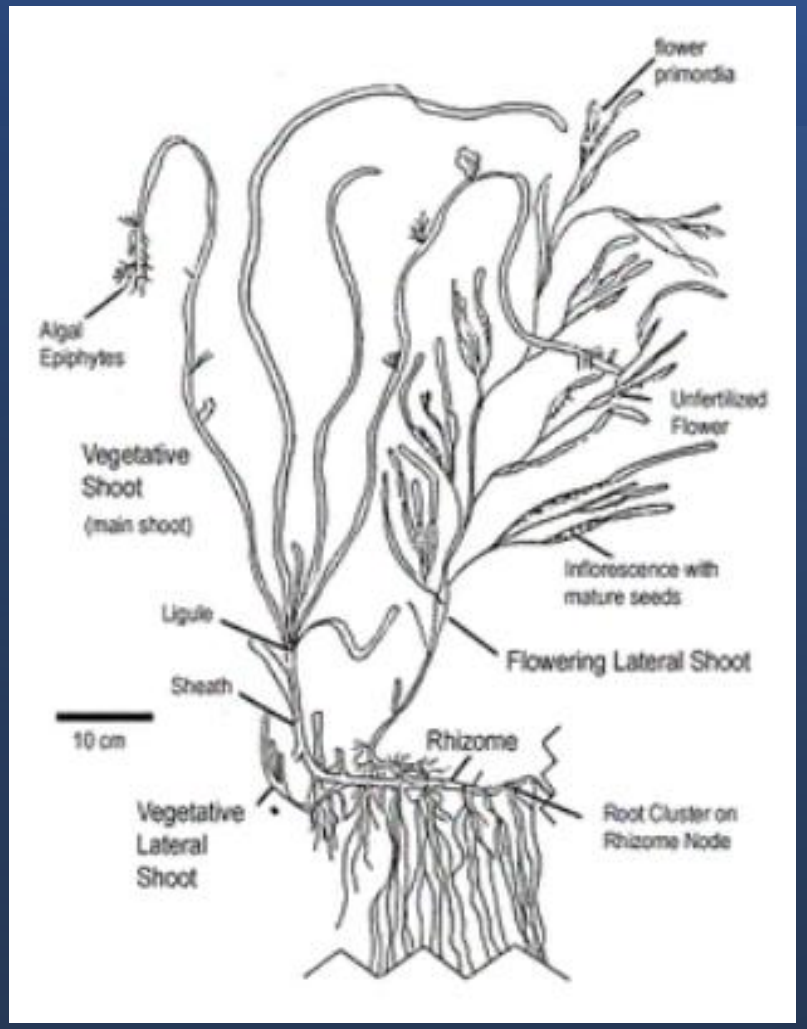
Eelgrass

Source: USGS

Source: Elisa Dawson

Kelp

Eelgrass … more



Source: The Restoration Project

Source: Amy Smalley

Sugar Kelp

Bull Kelp

Source: Elisa Dawson

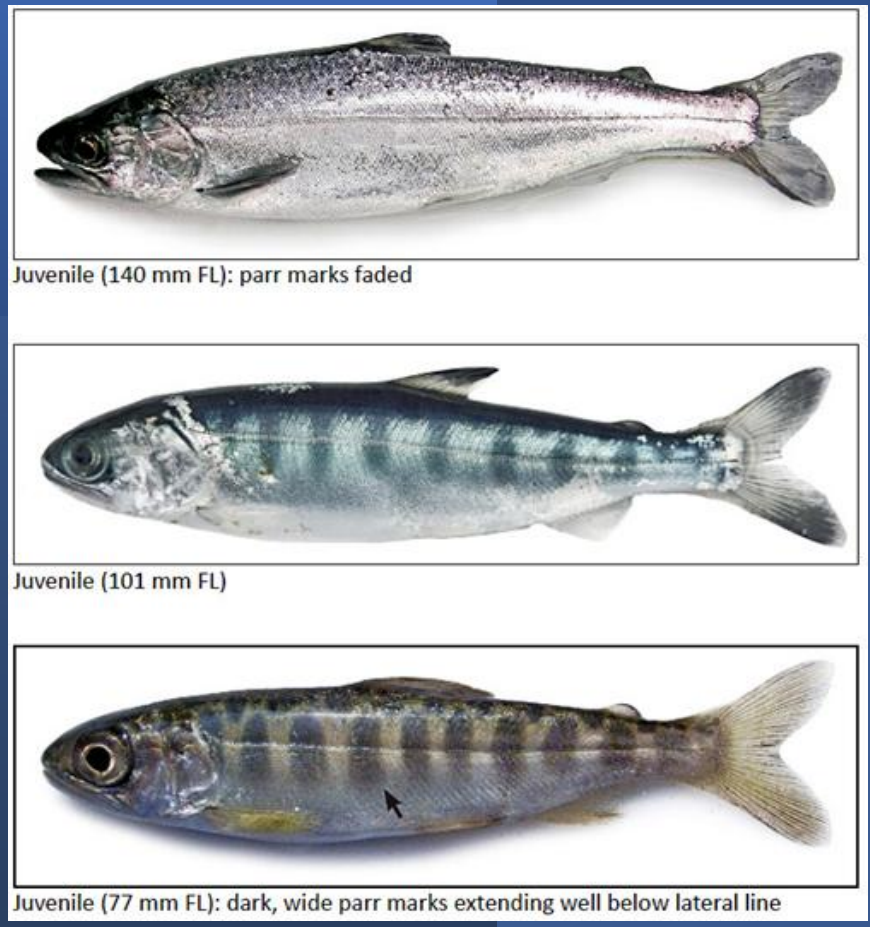
Ulva – sea lettuce

Eutrophication

Source: Christina Kereki

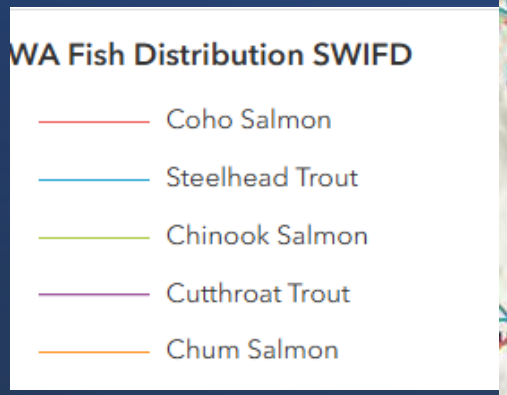
Salmonids

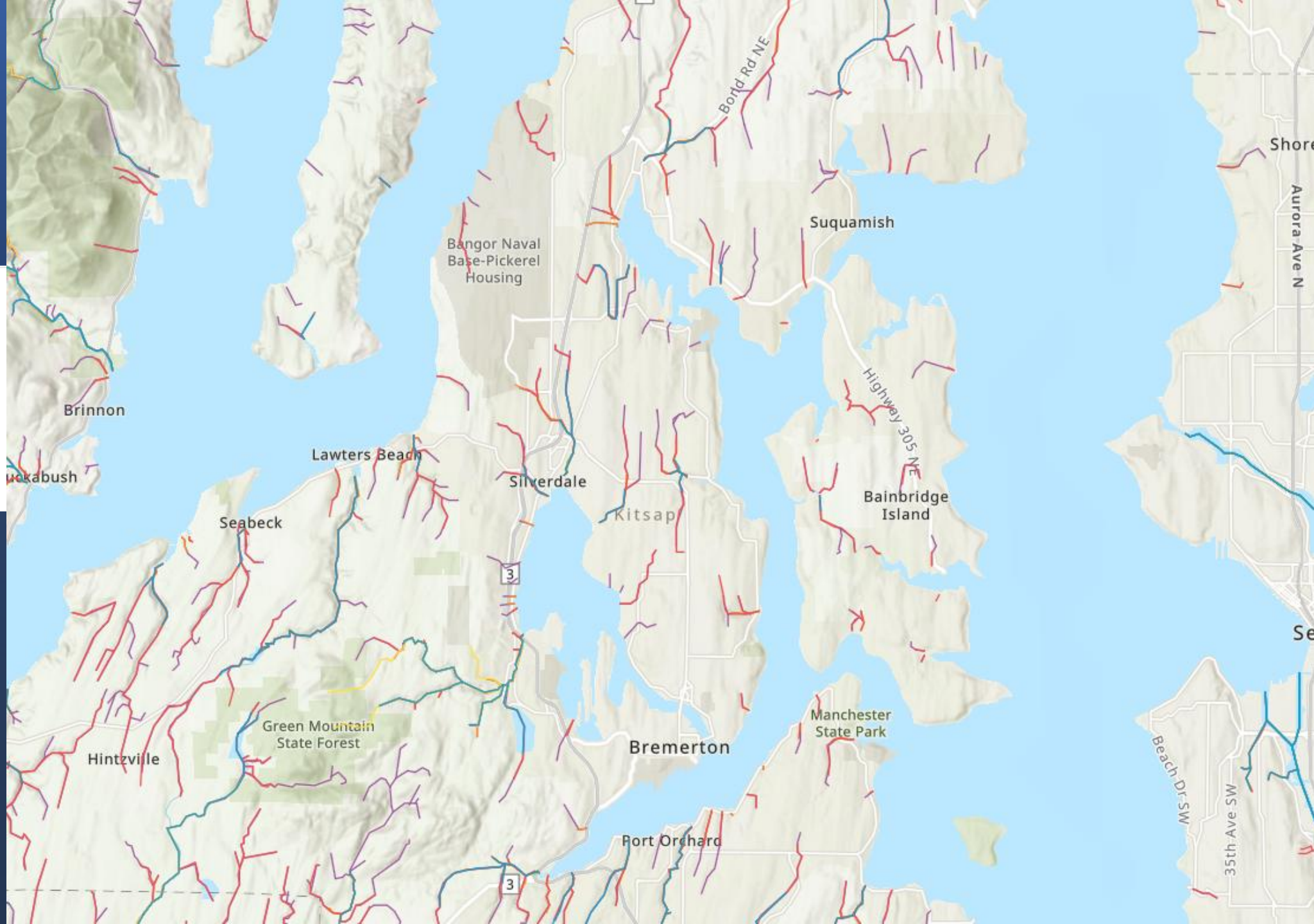
Source: Alaska Fish and Game



Source: NOAA Fisheries

Salmon species distribution in Kitsap County





Critical habitat for Chinook salmon

Forage Fish spawning locations

Legend

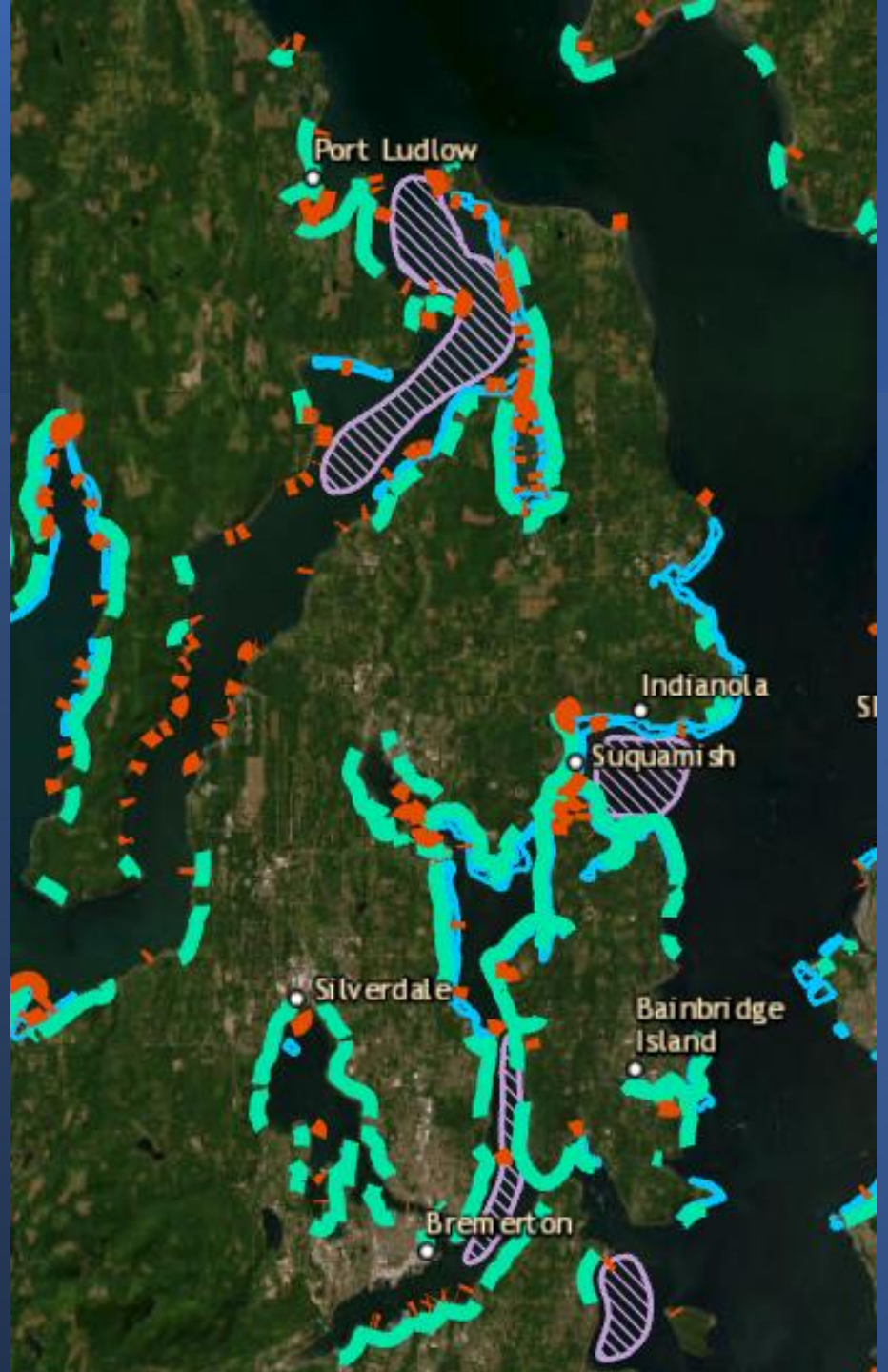
Forage Fish Spawning Data

Sand Lance Spawning

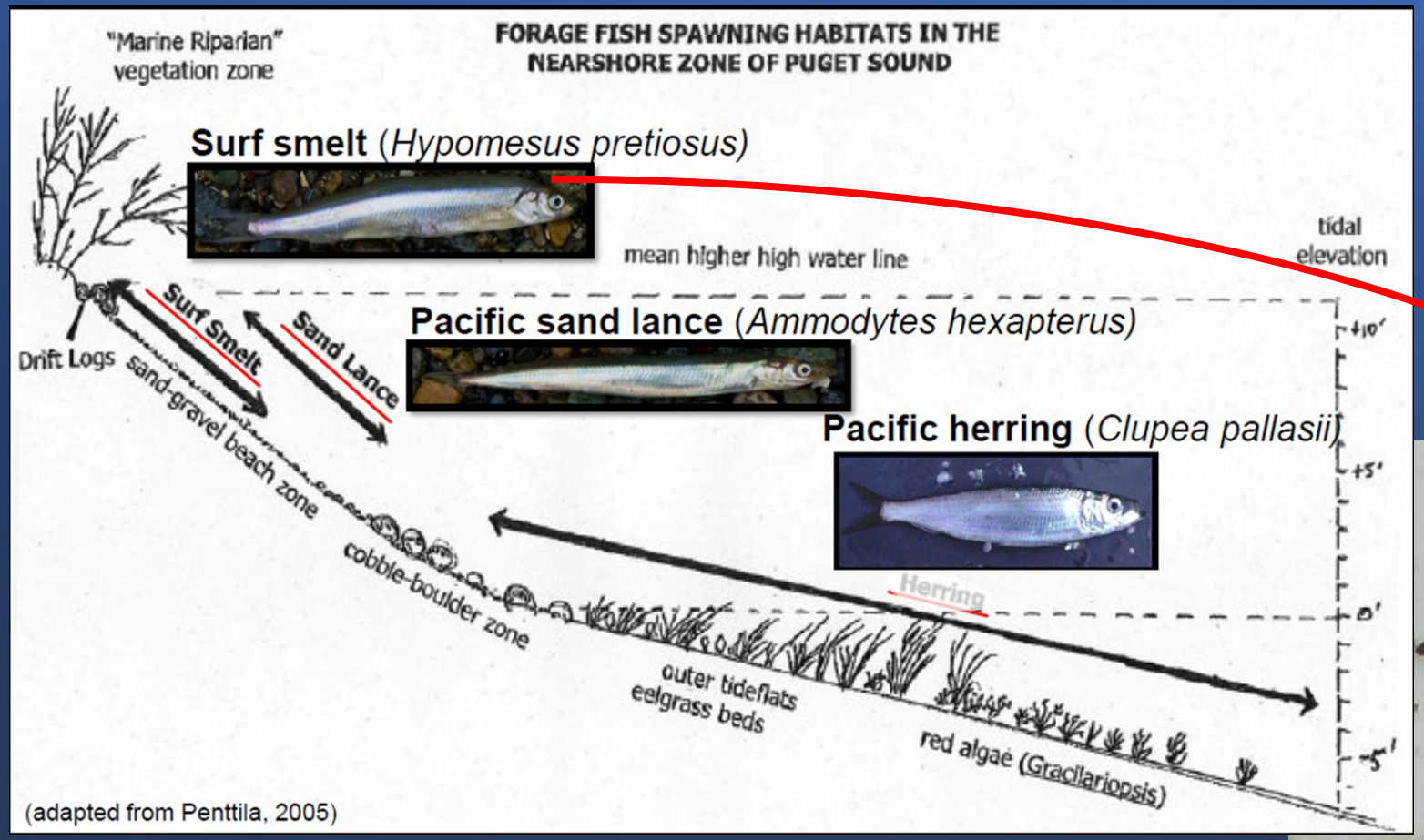
Smelt Spawning

Herring Spawning

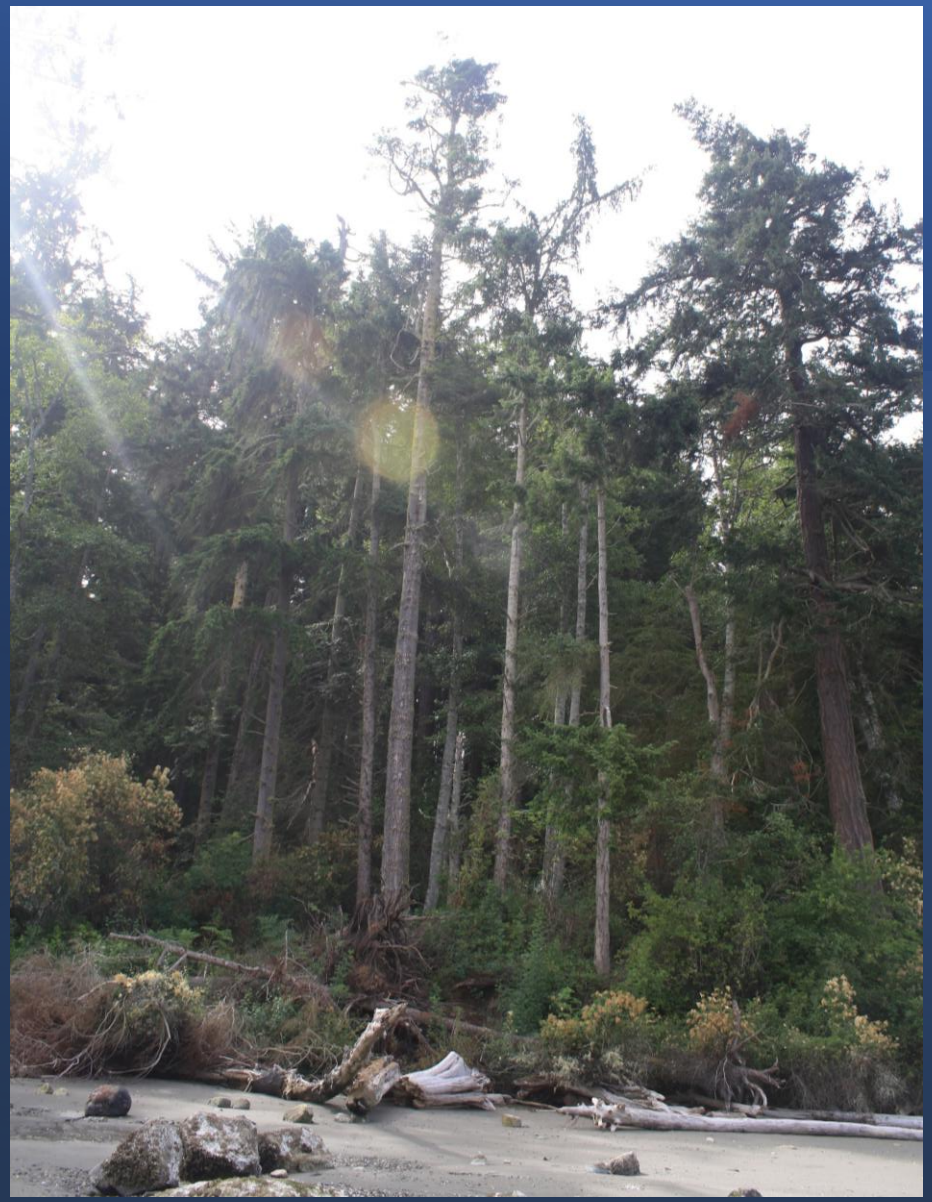
Pre-spawner Herrring Holding Areas



WDFW Online Forage Fish Spawning Database



Surf smelt eggs adhering to grains of sand and gravel



Vegetation contributions to nearshore:

-Large wood
-Structure
-Habitat

-Detritus
-Food Web
-Shade

:


Oystercatcher


Photo: All About Birds

Surf scoter

Glaucous winged gull

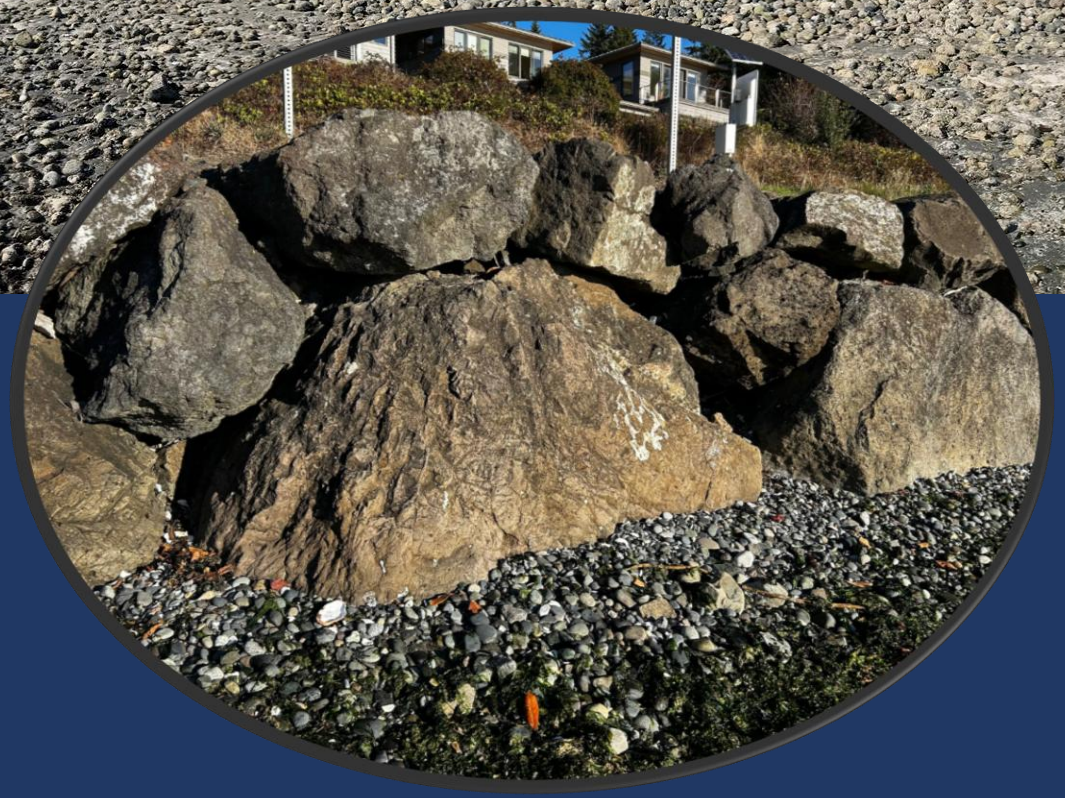
Killdeer

Dunlin

Any Questions?

Belted kingfisher

Source: Angie Hanners

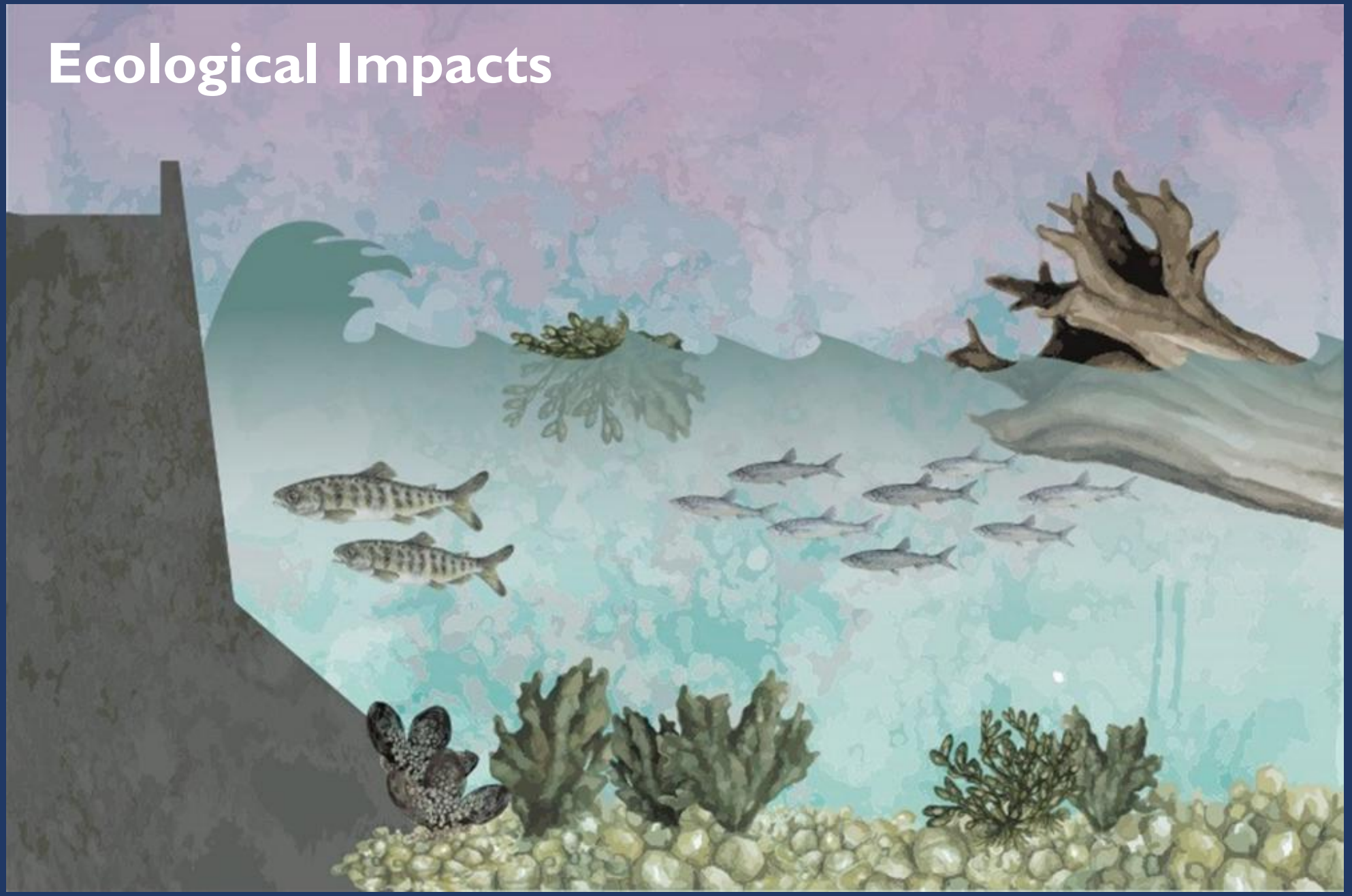


Shoreline armor doesn't:

Prevent Coastal Flooding

Prevent Bluff Erosion

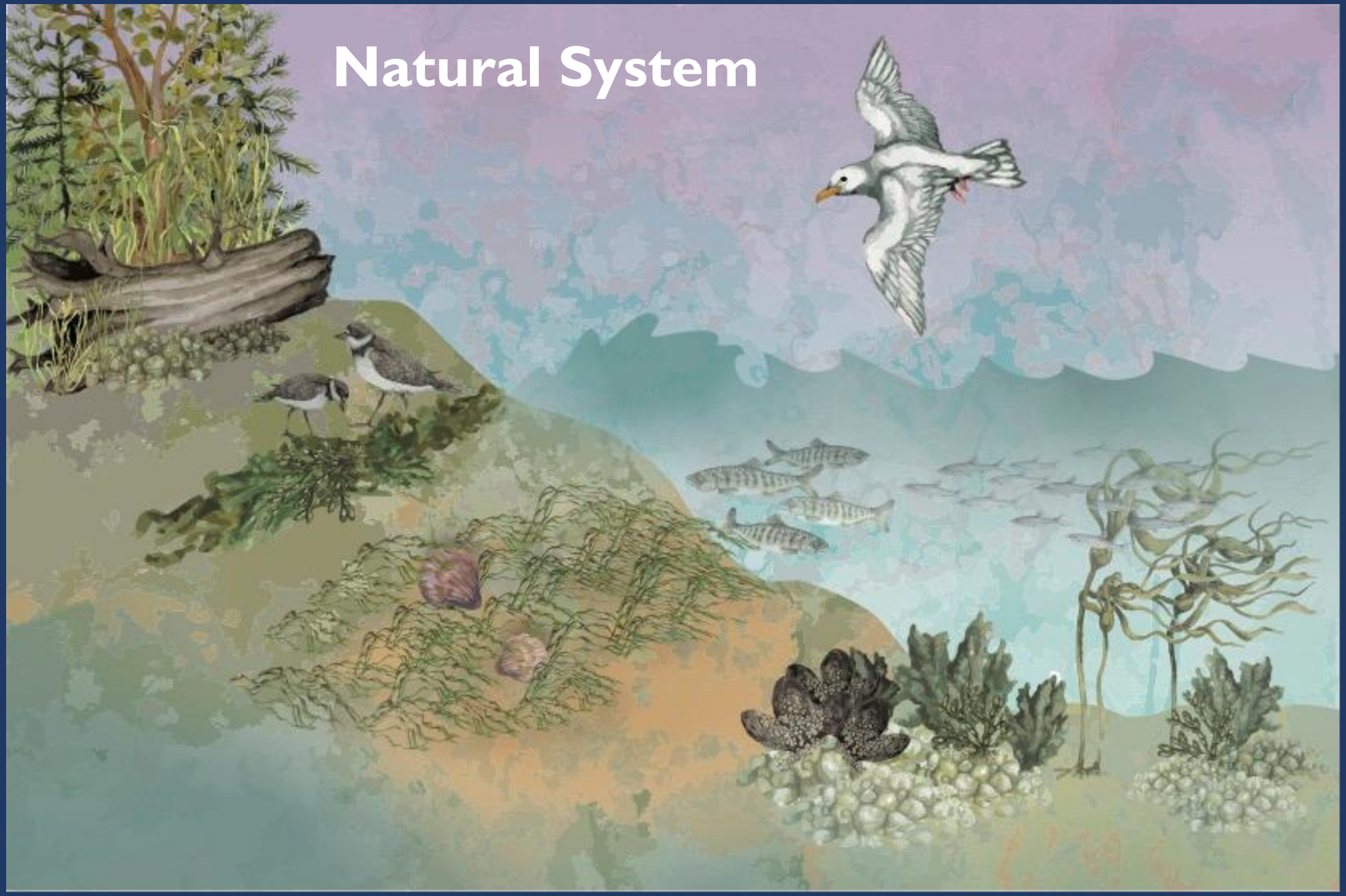
Ecological Impacts



- Reduced sediment input
- Burial of beach and forage fish spawning habitat
- Loss of beach wrack and LWD

Illustrations courtesy of Simone Des Roches
https://www.simonedr.com/

Natural System



- Connected Habitat
- Space for forage fish spawning habitat

Illustrations courtesy of Simone Des Roches
https://www.simonedr.com/

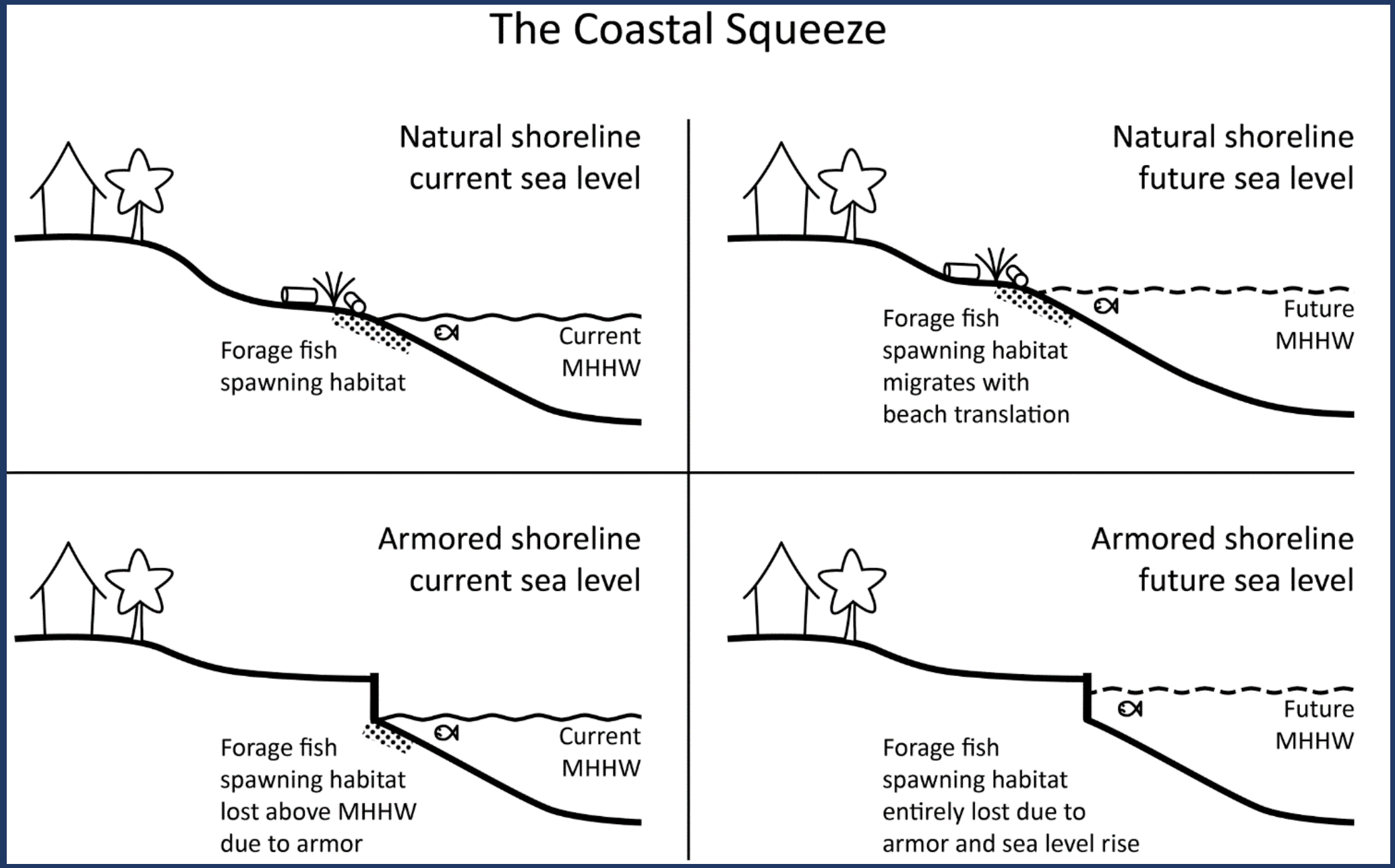


Figure from Coastal Geologic Services

SUMMARY

Shoreline Armor Impacts

- Simplified Habitats
- Loss of habitat connectivity
- Reduced sediment input
- Burial of beach and fish spawning habitat
- Loss of backshore berm
- Increase wave reflection
- Beach scour / erosion
- Loss of fines (sands)

Shoreline Bulkhead Impacts

Any Questions?

Indicators of Ecosystem Health

Beaches and Marine Vegetation:

Feeder bluffs in functional condition.